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Replacement Sheet

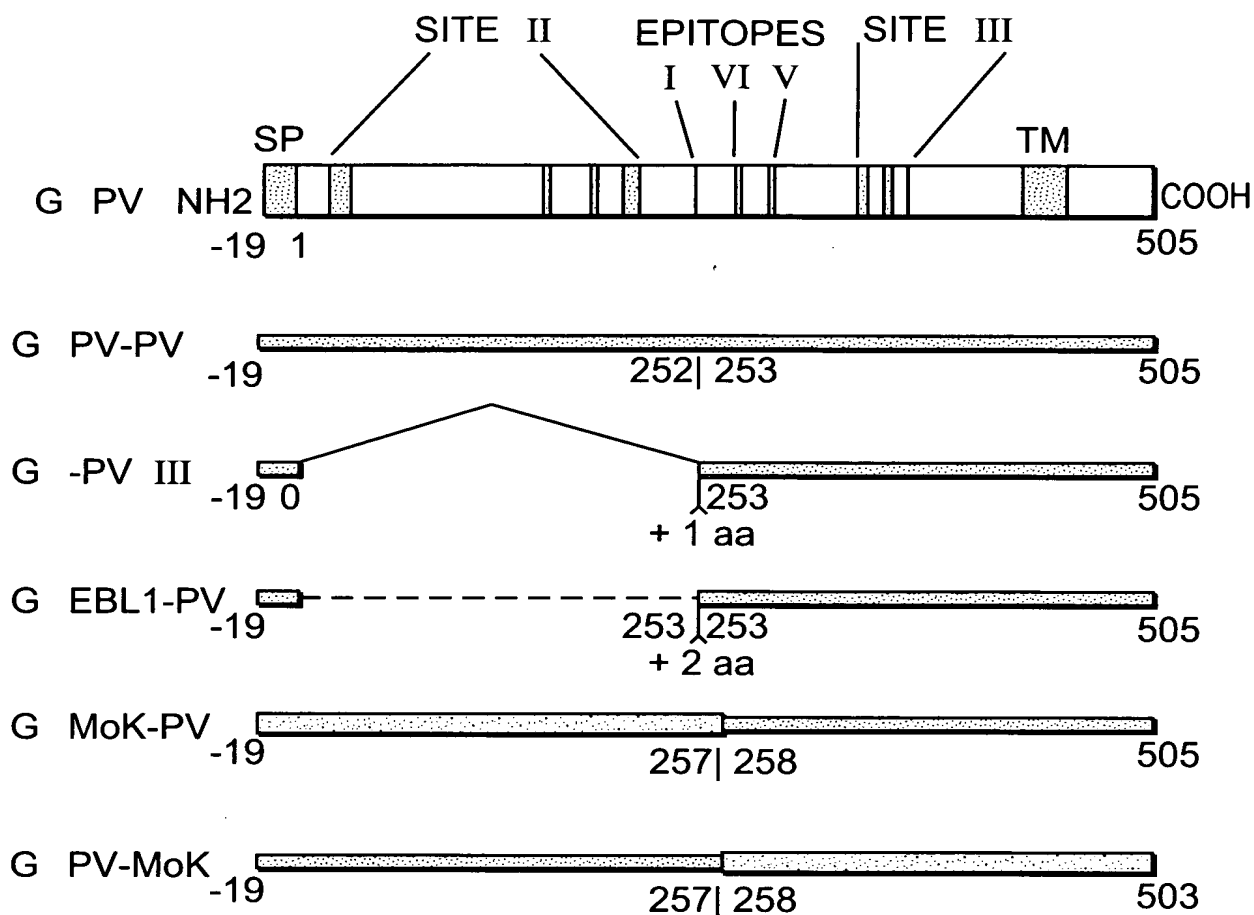


FIG. 1A

	230	247	253	256	VI 264	275	290
PV-PV	VLGLRLMDGTWVSMQTSNETKWC...	PPGQLINLHDFRSDEIEHLVVEELVKKREECLDALESI					
-PVIII							
EBL1-PV	P-M-S-L-KTEAPE-SNS						
MoK-PV	RP-I-E-FTKPDVHV...	T-N-					
PV-MoK					I-ND-L-I-DII	T-T	
MoK-Sad	KP-I-P-FTKPD	...DK-V				R	

FIG. 1B



Replacement Sheet

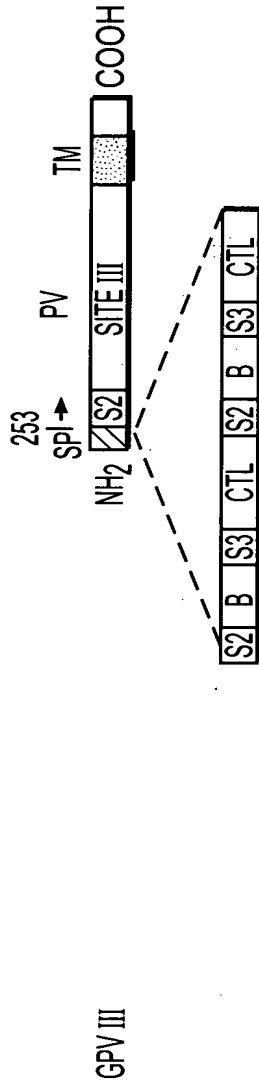


FIG. 1C

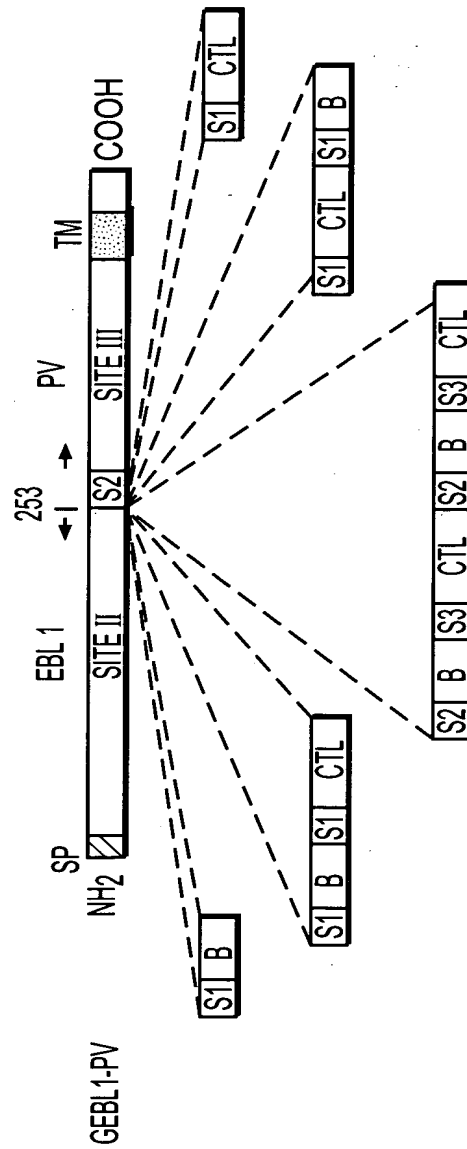


FIG. 1D

Replacement Sheet



SP <----- ECTO

-19 1 10 30 50 70 90

PV -vp--ll-vp--vfp--f--n-sg--sa-mn--p
 USA7-BT -ip--ll-vp--ips--e--t--a-nd--s-sg--sa-n--mp
 PL -l--i--llms-mvfp-p--l--i--s-sg--f--s--f--p
 EBL1POL -l--sta--aff--ncap--a--i--n--t--ie--i--
 EBL1FRA -l--sta--aff--ncap--i--n--t--ie--i--
 EBL2FTN -pf--t--lsa--salt--a--t-m--tv--r--d--sp
 EBL2HOL -pf--t--lsa--salt--v--t-m--tv--ne--d--sp
 Duv1SAF -p-n--t--t--rcsi--f--t--s--r--r--s--
 Duv2SAF -p-n--t--t--rcsi--f--t--s--r--r--s--
 Lag1NGA -sqlnl-lffcviiv-sved--l--e-i--t--li--q-s--g-ssv--v--t--l--hq--n--v--k--a
 Lag2CAR -sqlil-pf-cvviivsv-d--l--e-i--t--li--ls--d--sntat--n--i--t--l--hq--n--v--k--a
 Mok3ETP -nipcfavi-s-atth--e--l--e-iek--t--mi--mls--e--n--es--t--f--s--lahq--p--n--k--
 Mok2ZIM -nipcfvvi-s-atth--e--l--e-iek--t--mi--ls--e--naess--t--f--s--lahq--p--n--

CONSENS M-LQAVIF-LLL---LCUGKFPYITPDKLGPWSPIDIHLSCPNNLVEDEGCTTL-PFSYMLKVGYYITTIKVSGETCTGVVTEAETYNFVGYYTTTFKRKHFRPTV

ø

FIG. 1E



Replacement Sheet

	110	130	II 150	170	II 190	IIa
PV	d--a--m	---y---k	v---a-l-p-rs	rv-g-n--vav-ty-s	---rl-m	---n-r-r-s
USA7-BT	d--a-hd-m	---d-q---y---k	v---a-l-p-s	rv-s--l-itv-ty-s	---ve-rl-t	---n-r-r-s
PL	ef-n--v	---y---y	p-s	k-t--a-vp-i-s	l---k-m	---s
EBL1POL	s	---k	n-y	lasp-aic-p	i---k	---
EBL1FRA	s	---k	n-y	lasp-atc-p	i---k	---
EBL2FIN	s	---s-n	n	y-i-l--v-qv--s	---	---
EBL2HOL	s	---sc-t	tct---v---a	y-i-l--v-qv--s	---	---
Duv1SAF	ns	---k	a---a	k-y--r-ei-g--p--e	ss-i-	---r-m
Duv2SAF	ns	---k	a---a	k-y--r-ei-g--p--e	ss-i-	---r-m
Lag1NGA	l	---h-s	t---ns	v---i-e-v-sr--p--t-t-rfy--s-a	l-l-dd--ls-a	---v-t---sm
Lag2CAR	l	---fh-s	t---ns	v---i-e-v-sr--p--g-v-kfy--s-p	l-l--da-lsma	---i-t---sm
Mok3ETP	a	---vs	t---s	a---i-e-i-gr--p--s---kly--v-s-t	l-l--dssls-i	---s-s-q--m
Mok2ZIM	a	---vs	t---s	a---i-e-i-gr--p--s-v-nvy--v-se	l-l--d-sls-v	---s-n---m
CONSENS	-ACRDYVWKIAGDPRIEESLHNPYPDSHWLRTVTTTKESLLIIISPSVVDMDAYDKTLHSKMFNGKCSG-SPSSPFC-TNHDYTIWMPENPNGLSCDIFTTTSKGGKAT					

FIG. 1E (CONT. 1)



Replacement Sheet

	210	230	250	270	290	310
PV	set	vl	t-amtsnet	l-r	v	s-m-v
USA7-BT	v	i	i-ts-di	p-r-l	l-v-i-r-n	s-m-v-r
PL	kv	s	i-nh-ea		r	s-m-v
EBL1POL	d	r-v-m	l-kt-ape	v-t	v	i-f
EBL1FRA	d-k	r-v-m	l-kt-ape	t	v	i-f
EBL2FIN	d-k	s-m	i-nh-dea	v-a		s-m
EBL2HOL	d-k	s-m	i-nh-dea	v-a		s-m
Duv1SAF	d-q	r-r-s	lpqvnse	vad	d	if-r
Duv2SAF	d-q	r-r-s	lpqvnse	vad	d	lf
Lag1NGA	n-s-m-t	y-rti	f-t-i-ftrp-vtt	l-n-nnri	v-d-ir	t-vlms-v-f-y
Lag2CAR	n-s-m-t	f-rt	y-t-ftrp-inv	n-v-nnrl	gd-ir	t-lms-f-y
Lag3SAF						t-lms-f-y
Lag4SAF						t-lms-f-y
Mok1SAF						t-vfmsq-v-f-y
Mok3ETP	n-s-i-k	f-r-s	t-k-i-f-t	ftkpdvhv-t-n	ndrl-v-ddii	t-lmsq-v-f-y
Mok2ZIM	n-s-i-k	f-r	t-r-i-f-t	ftkpdvhv-t-n-i	ndrl	t-lmsq-v-f-y
CONSENS	KGGRLCGFVDERGLYSLKGACKLKLGGIPGLRLMDGSWVS-Q--E--KWCSPDQVLVNIHDFHSDEIHLIVEELVKKREECLEDALETI-TTKSISFRRLSHLRLVPGF					

FIG. 1E (CONT. 2)



Replacement Sheet

330 III a 350 III 370 390 410

PV f---t-n---rv---v---n---s---m---v---m---ng
USA7-BT f---i---ikt-n-v---ev-k-pv---n---s---m---m---eg
PL v---ng-t-n---vre-py---s---s---i---yr---i---
EBL1POL l---k-v---m---ys-i---s-g-d---m---r---
EBL1FRA l---t-v---m---ys-i---s-g-d---m---r---
EBL2FIN ---i---tdv---m---y-h---s---m---i---g---
EBL2HOL v---i---tdv---m---y-h---s---m---i---g---
Duv1SAF r---e---k---y-h-i---g-ki---v-k---n---s-d---
Duv2SAF r---e---k---y-h-i---g-el---v-k---n---s-d---
Lag1NGA l-q-s-igt-nv-lk-dn-s-l---innq-va-de---k---i---s-wk-md-fkaa-f---ie-gsl-n-gd-de-d-m-
Lag2CAR ---q-s---tnv---lr-ds-nd-l---mnkq-vdsyr---k-h---i---s-k-md-kaa-f---i-qns-l---gd-d-m-
Lag3SAF ---q-s---tnv---lr-ds-nd-l---mnkq-vdsyr---k-l---i---s-k-md-kaa-f---i-qns-l---gd
Lag4SAF ---q-s---tnv---lr-ds-nd-l---mnkq-vdsyr---k-l---i---s-k-md-kaa-f---i-qns-l---gd
Mok1SAF ---l-q-s---nv-y-r-dr-ad-l---v-q-q-mdpv-l---k---qi---eq-k-md-kaa-f---isqea---gd
Mok3ETP ---l-q-s---tnv---r-dr-ad-l---r---v-q-q-mdpv-k-l---k---qi---eq-k-md-kaa-f---inrea---gn-d-dl-m-
Mok2ZIM ---l-q-s---tnv---r-dk-ad-l---l---v-q-q-mepvk-l---k---qi---eq-k-md-kaa-f---isrea---gd-d-dl-m-
CONSENS GKAYTIINKTLMEADAHYKSVREW-EIIPSKGCLKAGGRCHPH-NGVEFNGLILGPDGHVLIPEMQSALLQQHIELLESSVILRHPPLADPSTVFKKDEAEDEFVHLP

FIG. 1E (CONT. 3)



Replacement Sheet

	430	450	470	490	510
PV	--her--v--n-gk-v--ls-g--ta-m-i-flmt-wr--n-septqh-lrgtg-e--p--i-s--s-getgl				
USA7-BT	--h-r--v--s-gk-l-ms-g--i-i--vlii--r-nktgstqgrhr-srg-m-ap-n-i-s--l--resetgl				
PL	---qv---s-e--li---v1-f---f---r-c--kkardri--d-----lkpshfrs				
EBL1POL	-t--l-----f-----i-v-----t-a--f---rp--i-----ra-----v-pp-es				
EBL1FRA	-t--l-----f-----i-v-----t-a--sr--rp--i-----rav-----v--tses				
EBL2FIN	---q-----v-----m-f-a-----hkkra--v-----rp-----ve-g-qs				
EBL2HOL	---q-----v-----f--m-f-a--r-----kkra--v-----rp-----ve-g-qs				
Duv1SAF	-tnqk-----v--v-----s--mr-----f-n--ks--s-v--t-----i-kngnpv-----e--t-dvrnttpstre				
Duv2SAF	-tnqk-----v--v-----s-----frk-kks--g-v--t-----i-kngnpv-----e--t-dvrnttpstre				
Lag1NGA	--h-lv-dv-----d-sl-a-----tii-ffi-icl-ri--krg--nsptnr-dlp-glsttpqps--s-----gtsnv				
Lag2CAR	-i--l--dv-----s-gl-vm--av-i-f-v-icl-ri--kkt-t-tsmer-dpp-slsttpqpsra--vs-----gssnv				
Mok3ETP	----sv-dv-----h-gfwl-v--tvv-fwv--cllr--r--mr--slratqdipslvapapvpra--vs--s-glpgt				
Mok2ZIM	--h-sv-dv-----h-gfwm-----tiv-fwv--vcllr-----r--sgratqeipslfp-apvpra--vs-----glpgt				
CONSENS	DVOK-ISGIDLGLPEWKRYFLIGASALLALALAI I IAVCCKRVKRRR--KPNP-ELIRKVSVTSGSKVIPSWESYK-GT-G				

ECTO-----> TM <----- ENDO

FIG. 1E (CONT. 4)



Replacement Sheet

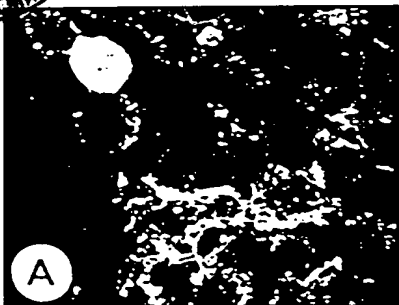


FIG. 2A

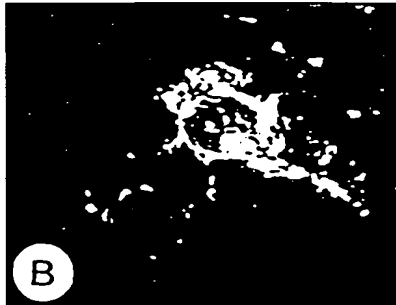


FIG. 2B

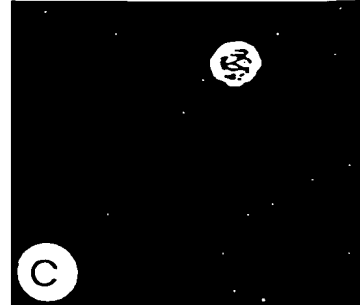


FIG. 2C

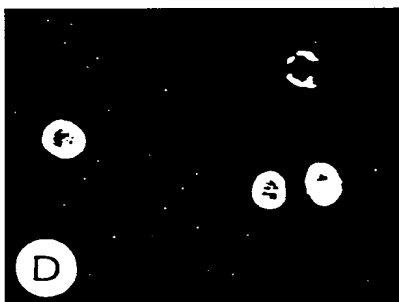


FIG. 2D

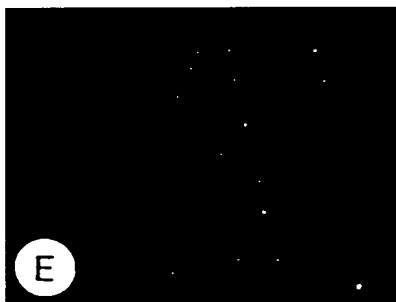


FIG. 2E

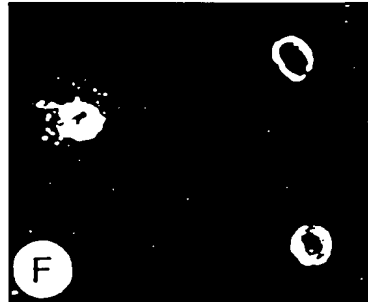


FIG. 2F

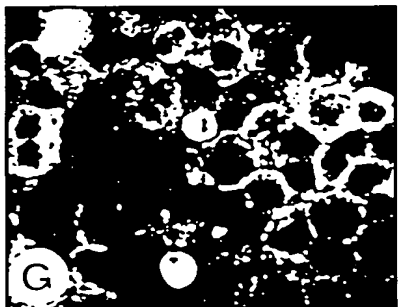


FIG. 2G

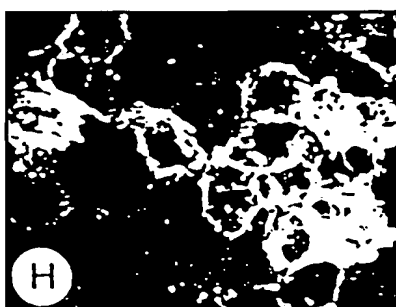


FIG. 2H

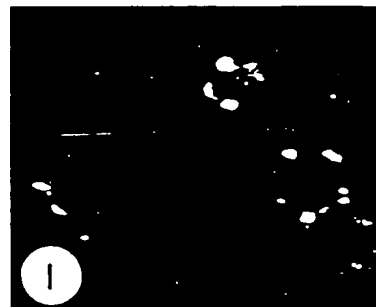


FIG. 2I



Replacement Sheet

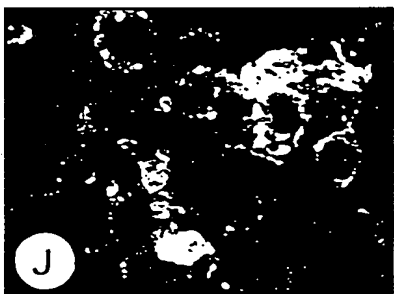


FIG. 2J

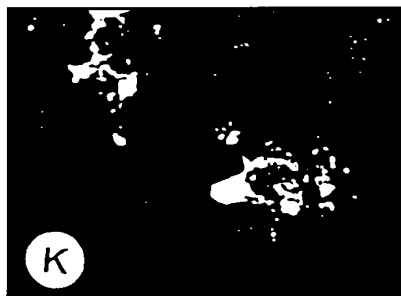


FIG. 2K



FIG. 2L

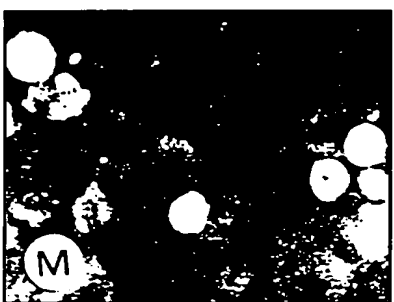


FIG. 2M

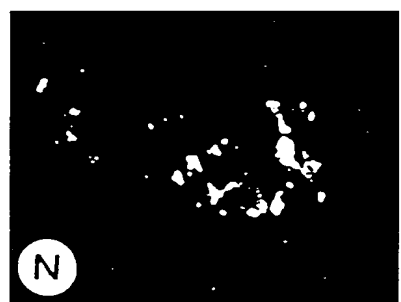


FIG. 2N



FIG. 2O



Replacement Sheet

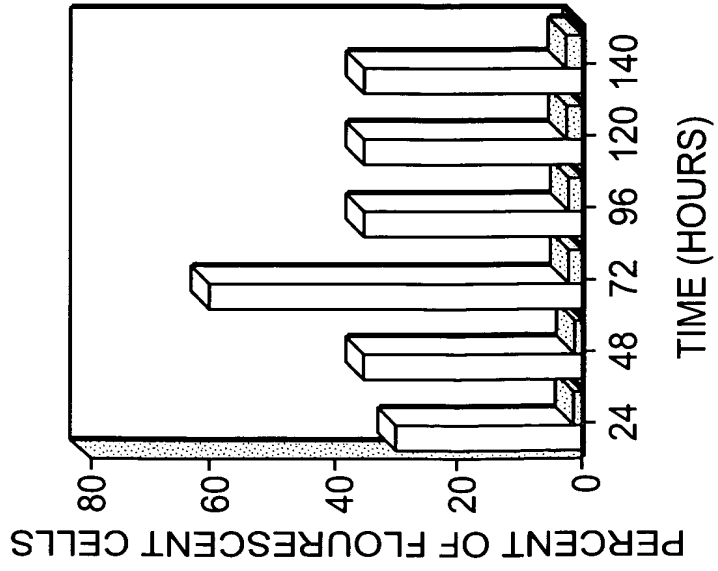


FIG. 3A

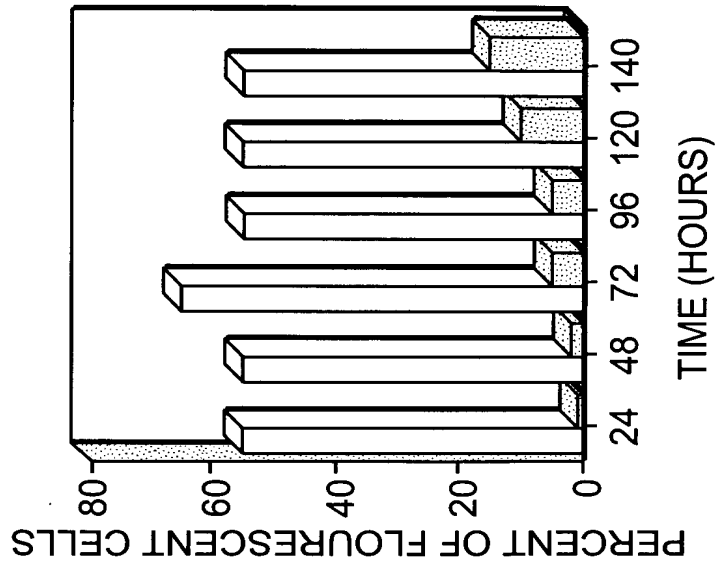


FIG. 3B

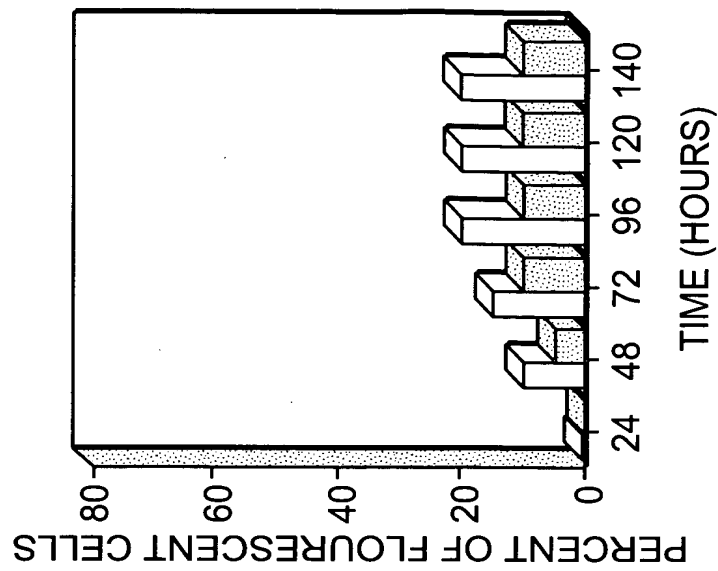


FIG. 3C

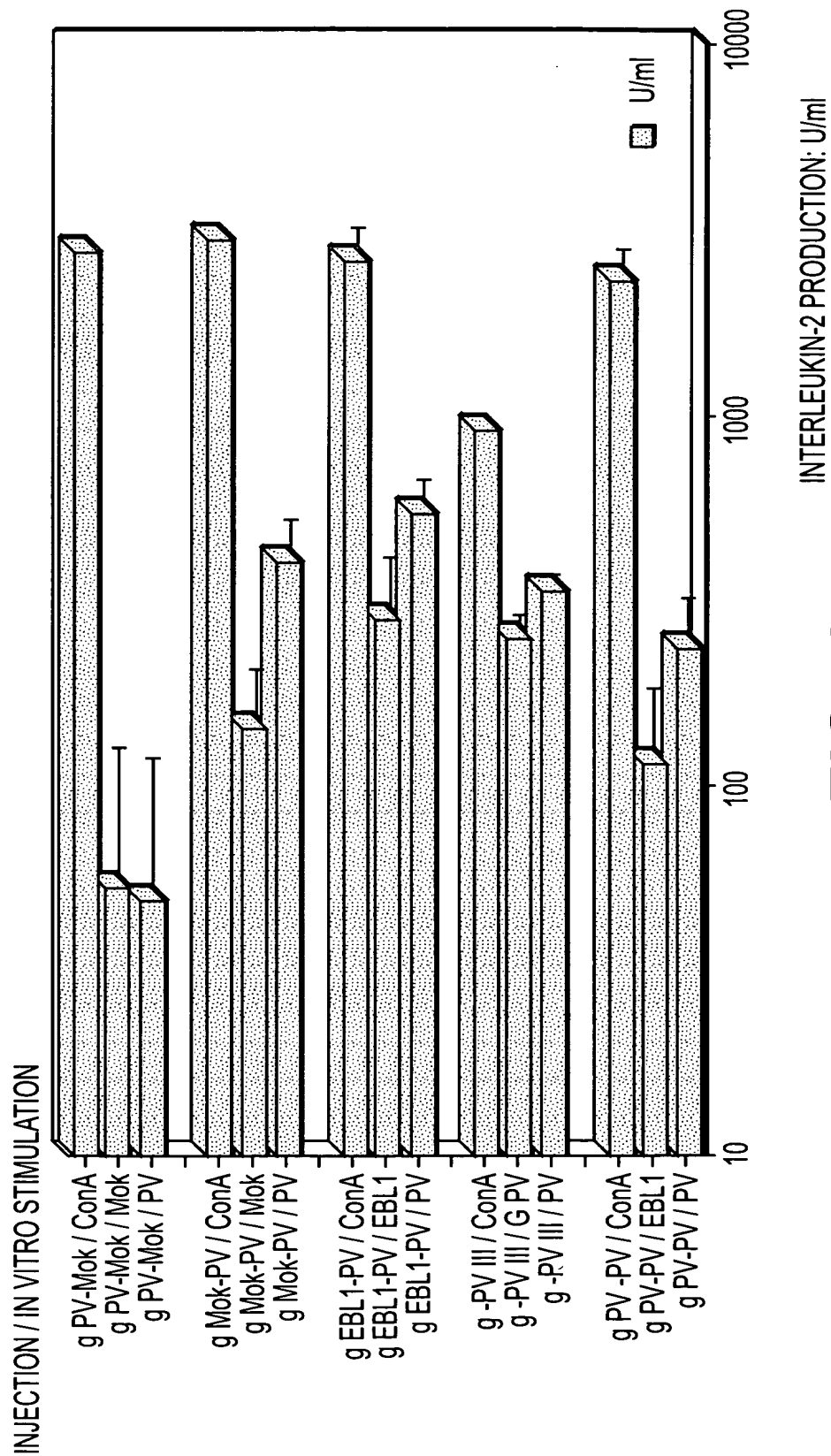


FIG. 4



Replacement Sheet

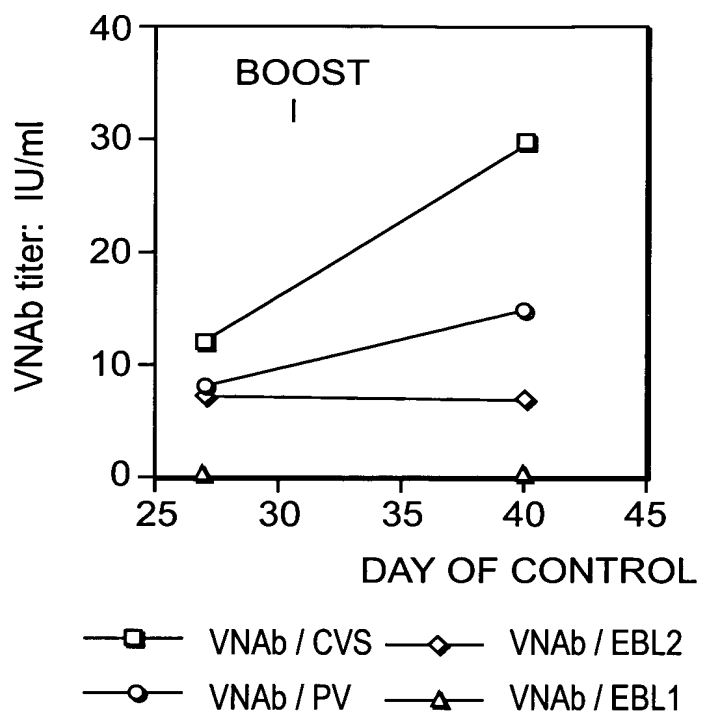


FIG. 5A

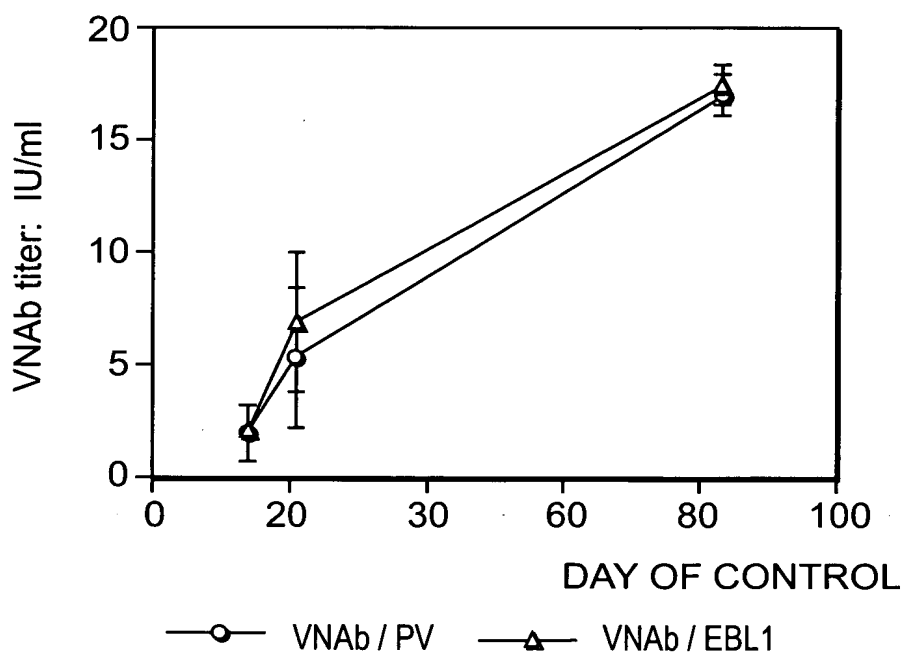


FIG. 5B

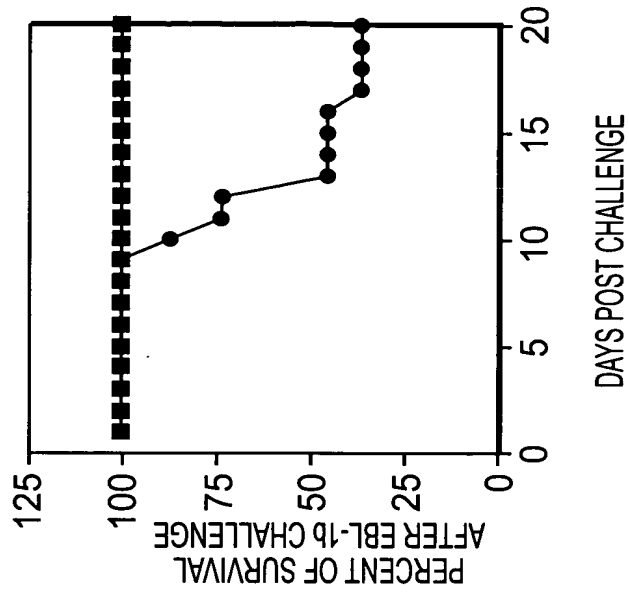


FIG. 6B

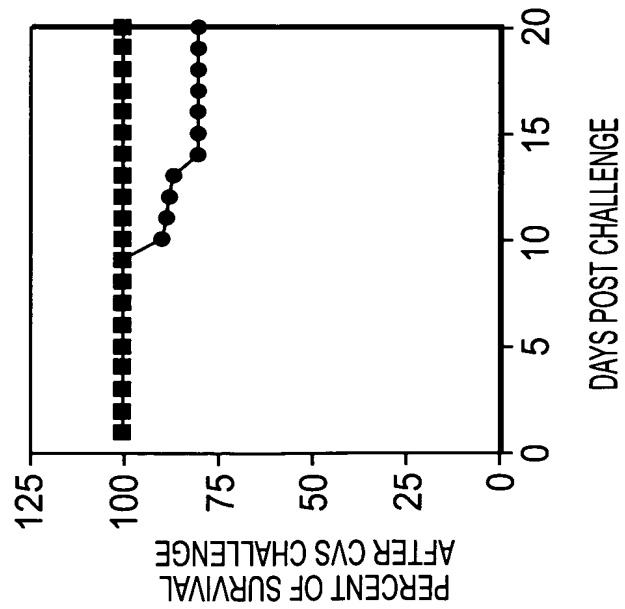


FIG. 6A

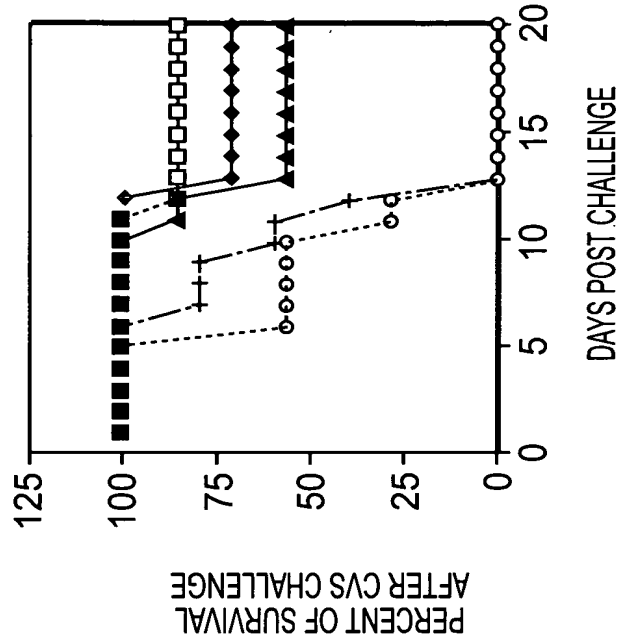


FIG. 6D

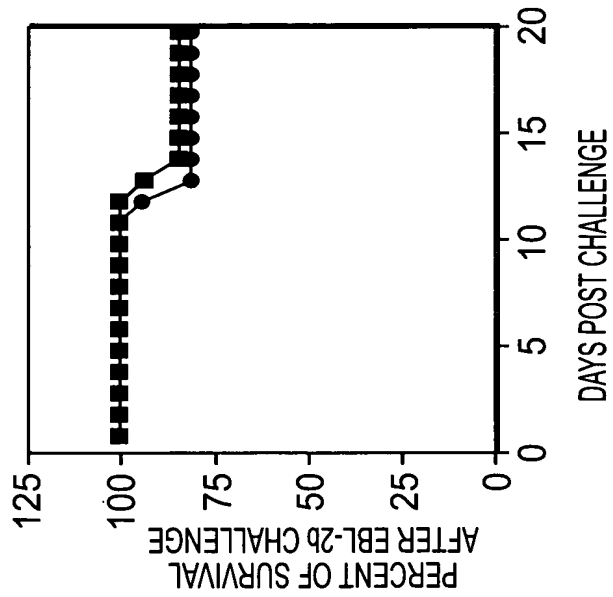


FIG. 6C



Replacement Sheet

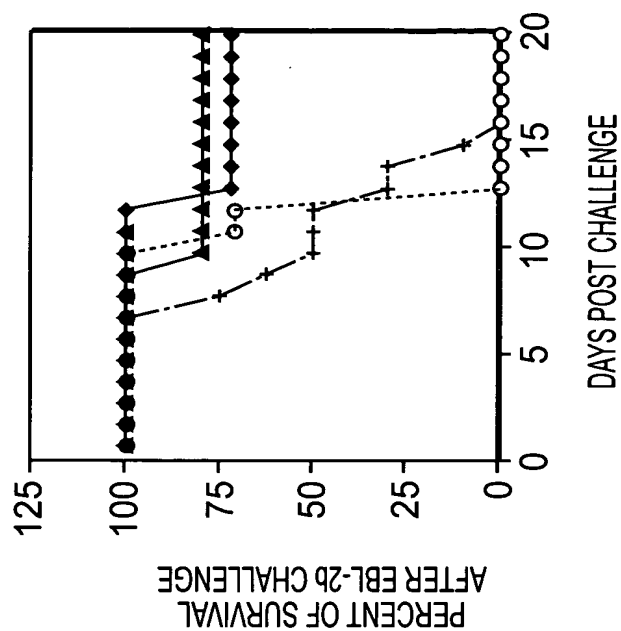


FIG. 6F

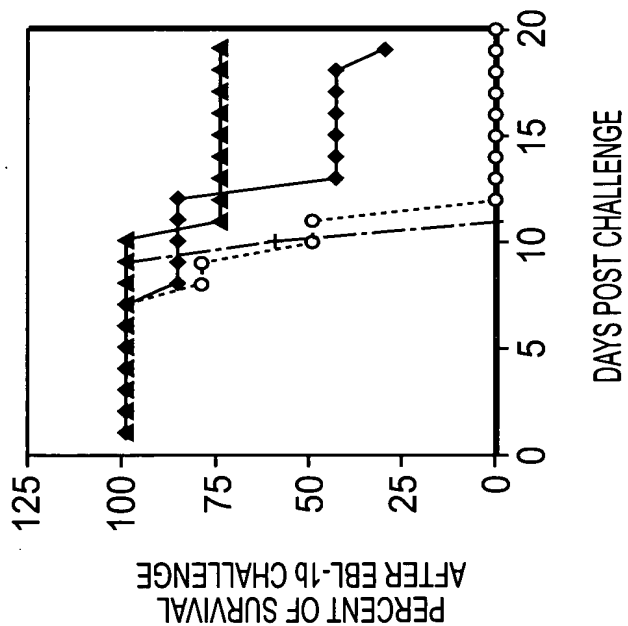


FIG. 6E



Replacement Sheet

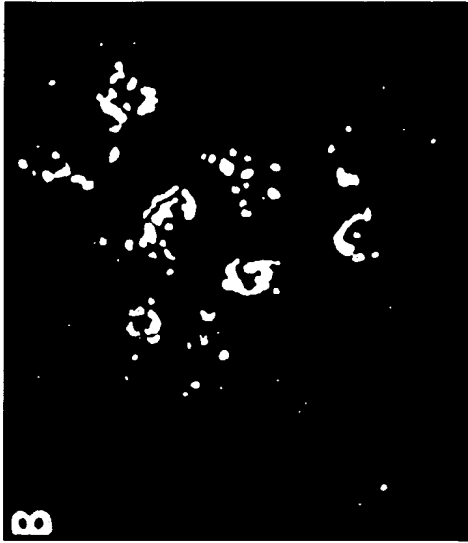


FIG. 7B

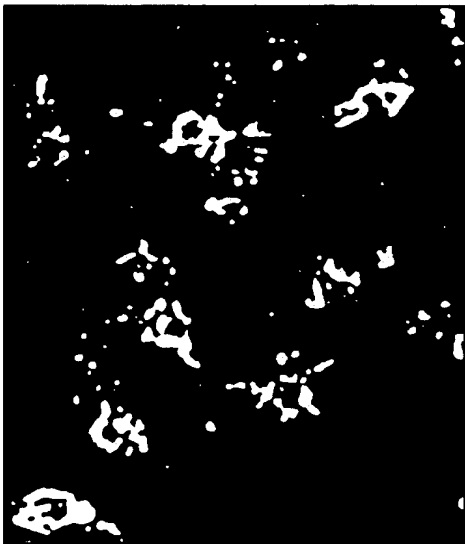


FIG. 7A



FIG. 7D

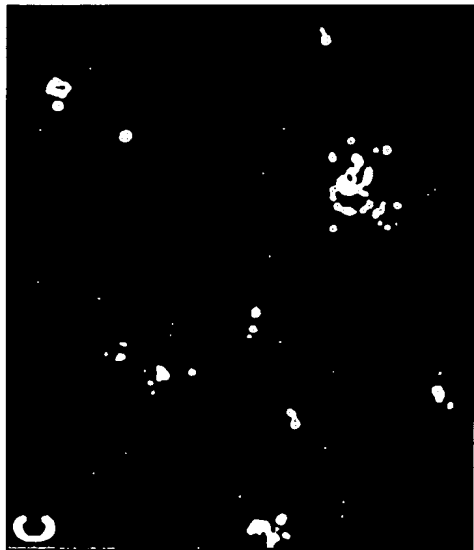


FIG. 7C

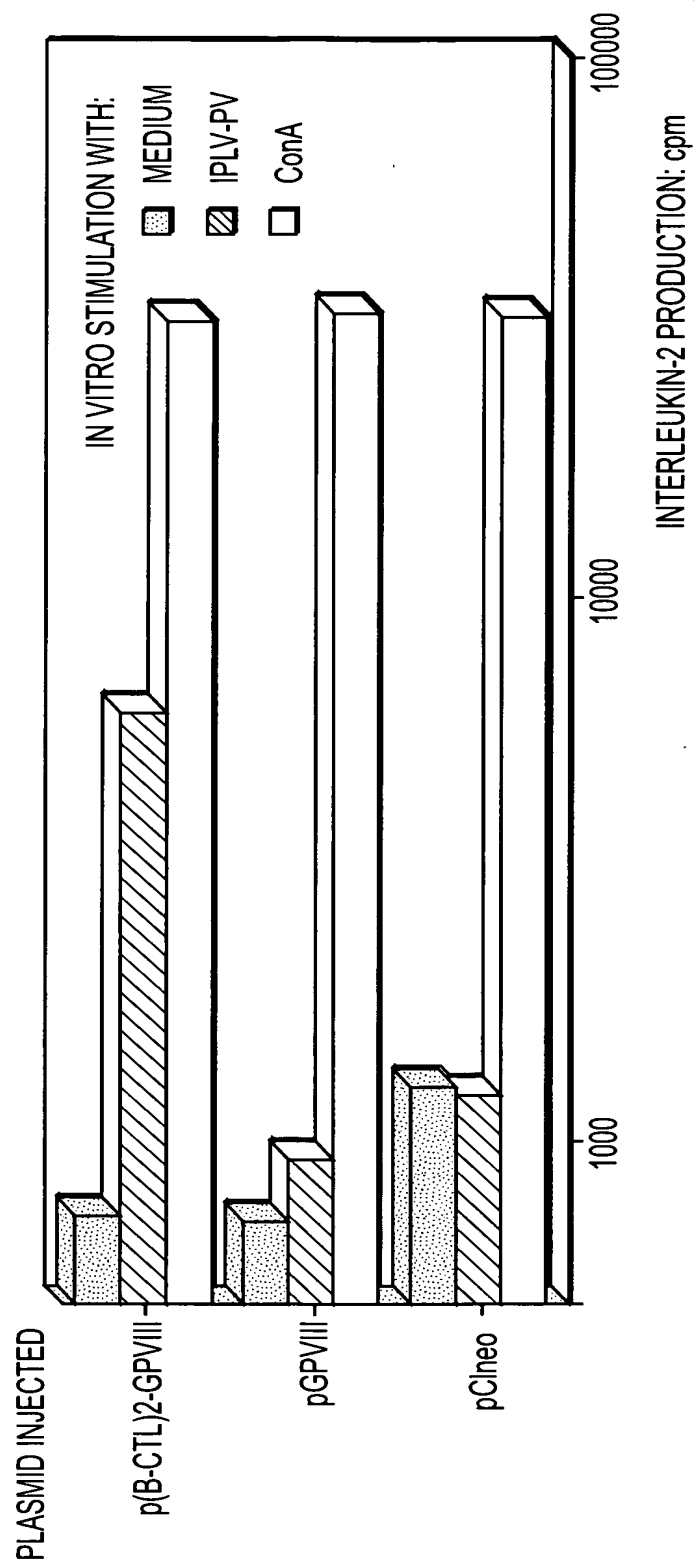


FIG. 8A

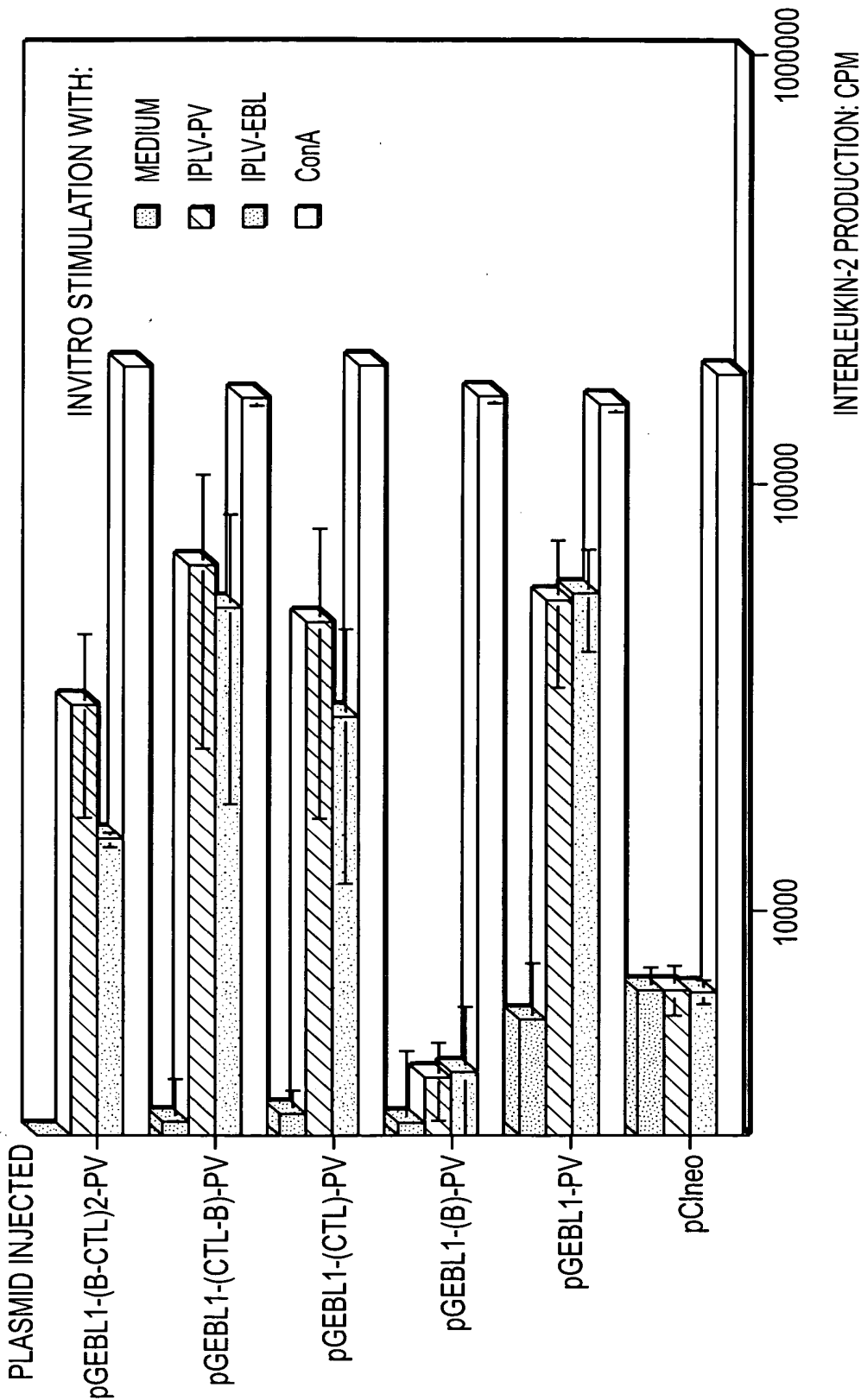


FIG. 8B (CONT.)



Replacement Sheet

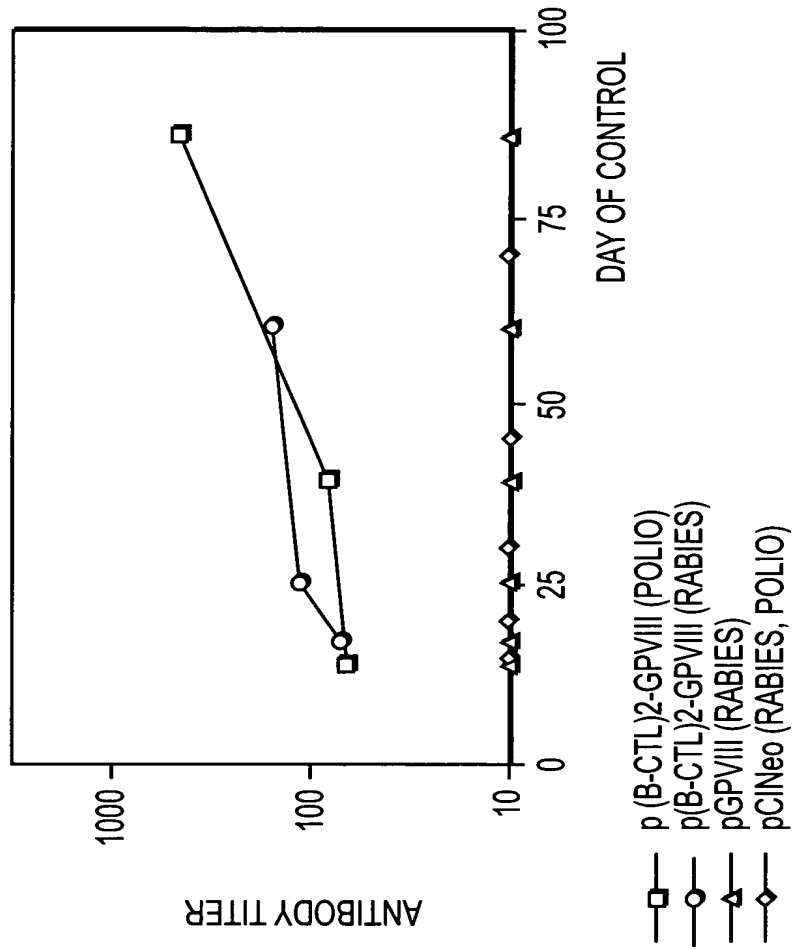


FIG. 9

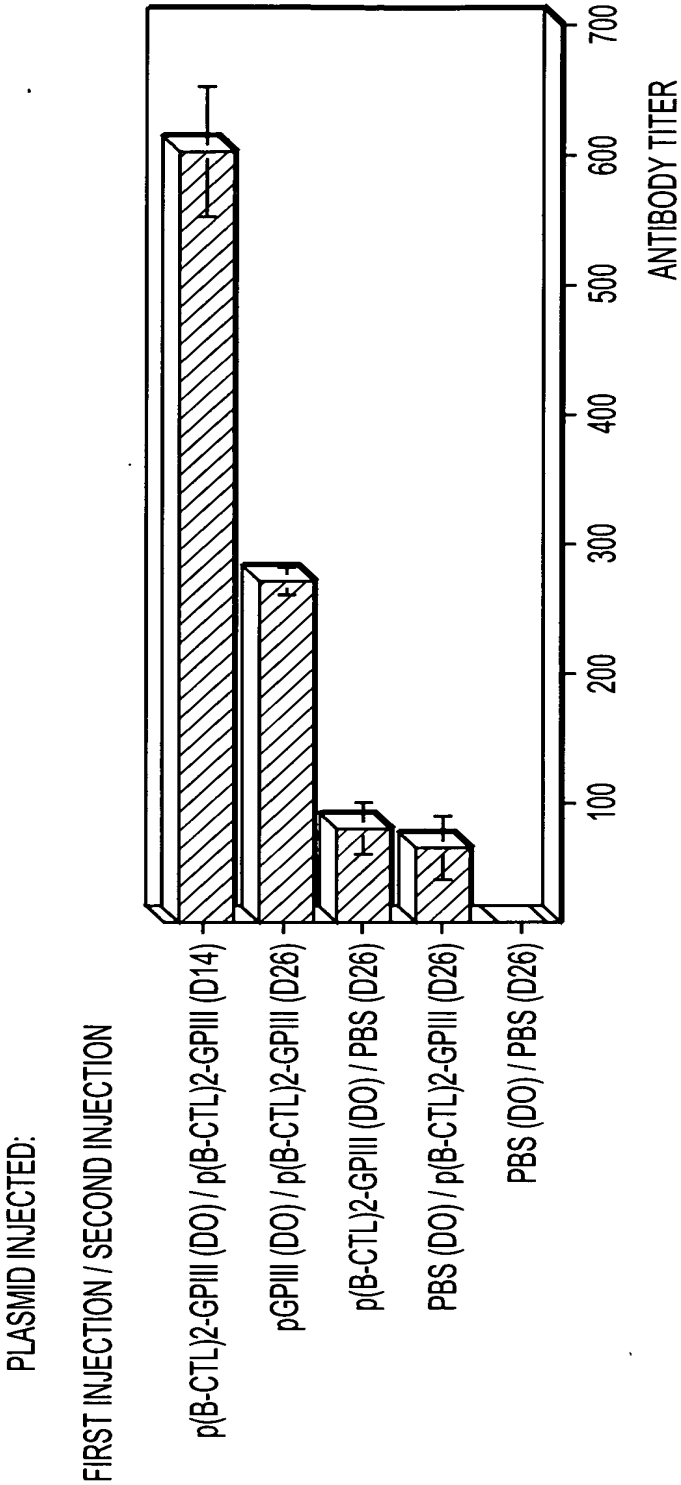


FIG. 10

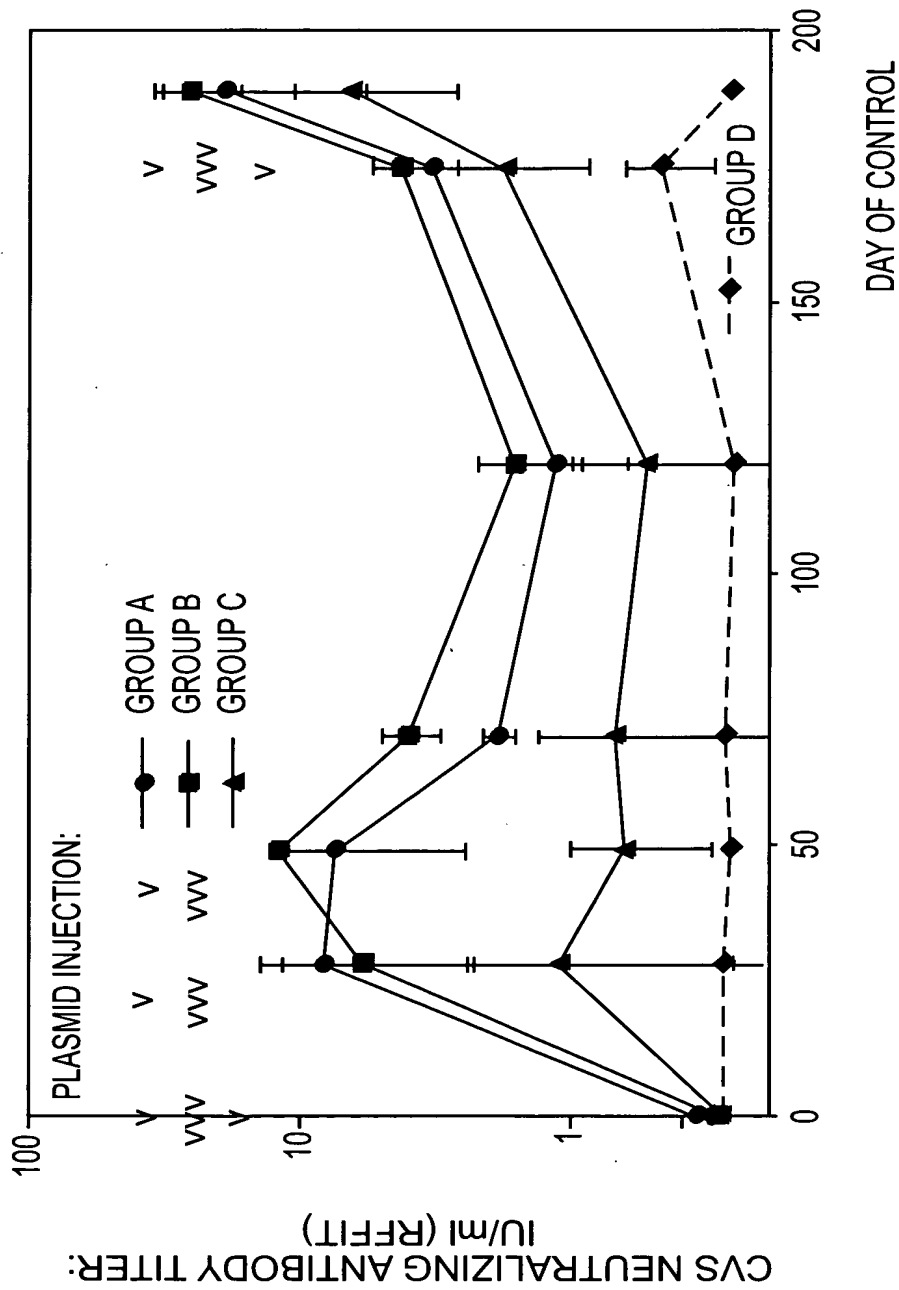


FIG. 11



Replacement Sheet

VNA_b TITER
 BEFORE CHALLENGE
 TO THE CHALLENGE
 (IU/ml)

SURVIVAL

DOG NUMBER

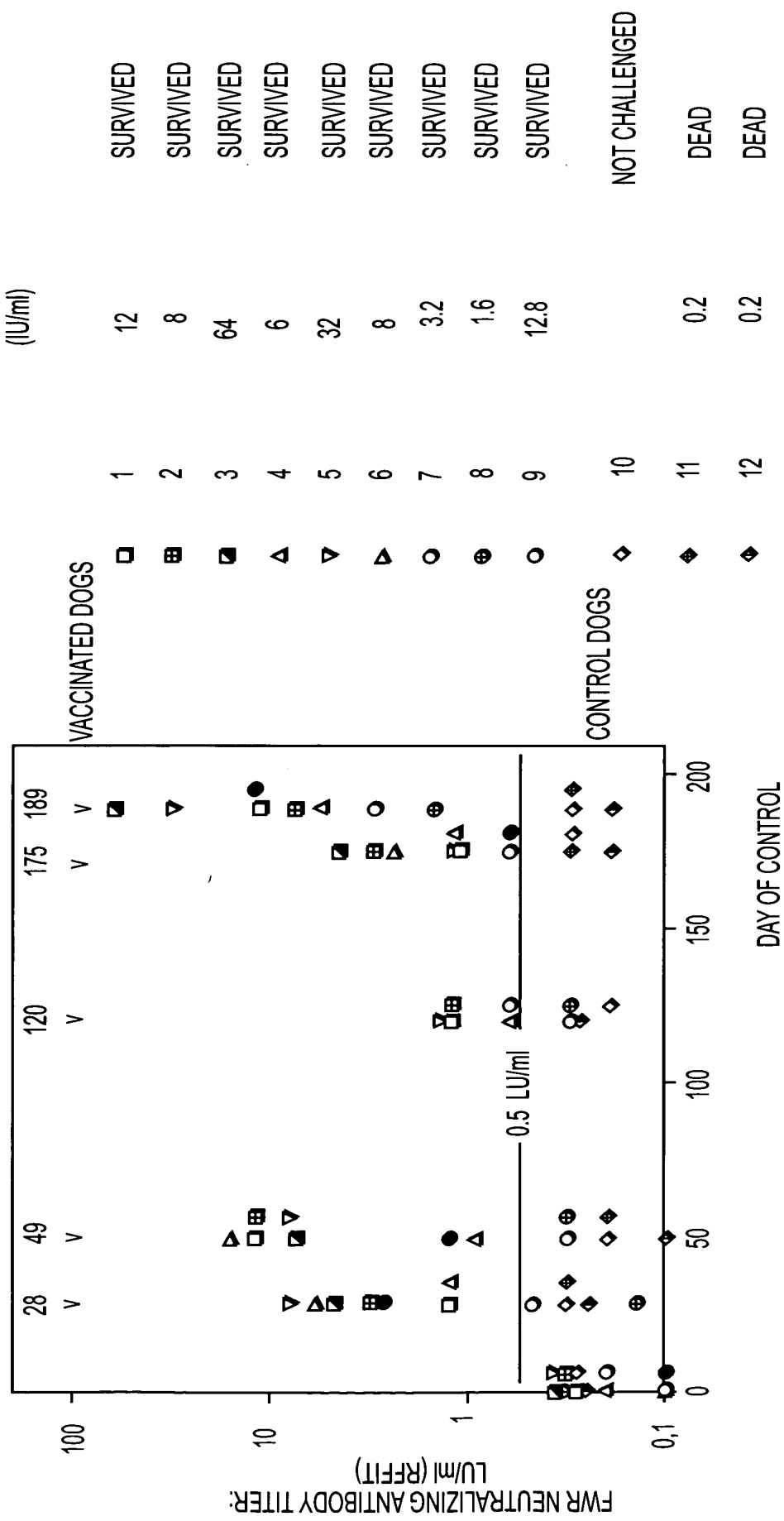


FIG. 12

Replacement Sheet



FIG. 13B

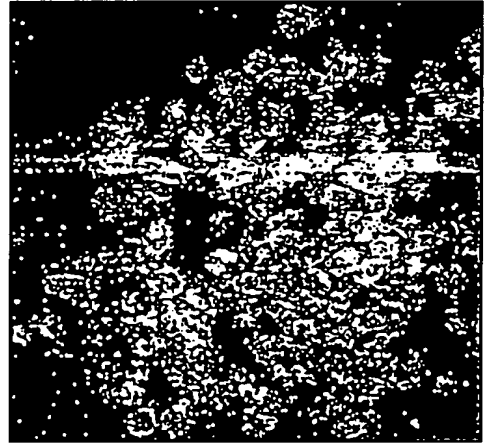
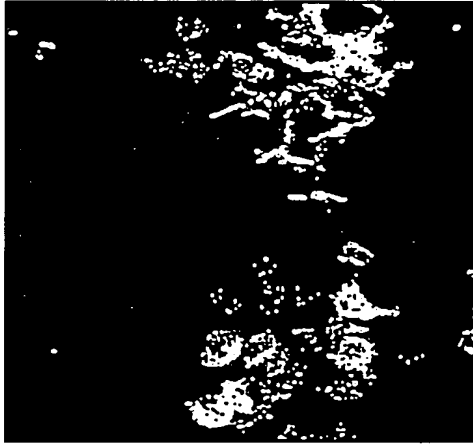


FIG. 13A

